

## A NEW SPECIES OF THE GENUS *WOLONGIA* AND THE FEMALE OF *META SHENAE* (ARANEAE, TETRAGNATHIDAE) FROM YUNNAN PROVINCE, CHINA

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**Abstract** A new tetragnathid species, *Wolonia odontodes* sp. nov. and the female supplement of *Meta shenae* Zhu, Song & Zhang, 2003 are described from Gaoligong Mountains, Yunnan Province, China. A revised diagnosis for the genus *Wolonia* is given. Detailed morphological characteristics and illustrations of body and copulatory organs are presented.

**Key words** Tetragnathidae, *Wolonia*, new species.

Tetragnathidae are a large spider family including 958 known species in 51 genera worldwide (Platnick 2008), of which about 20 species of 11 genera are distributed in China. (Zhu, Song & Zhang 2003)

The genus *Wolonia* was established by Zhu, Kim & Song (1997). Only two species have been described: *W. guai* from Shaanxi Province, China and *W. wangi* Zhu, Kim & Song, 1997 from Sichuan Province, China. Spiders of this genus are small with body size ranging from 3.25 to 4.40, and habit grasses and shrubs.

While examining Tetragnathidae specimens of a Sino American joint biodiversity survey made by California Academy of Sciences, USA (CAS) and Hunan Normal University, China (HNU) from the Gaoligong Mountains, a new species of *Wolonia* and the female spider of *Meta shenae* are identified and described below. The diagnosis of the genus *Wolonia* is revised.

Specimens were examined with an Olympus SZ11 stereo dissecting microscope. Measurements are given in millimeter (mm). Total leg length was measured as the sum of the lengths of femur, patella+ tibia, metatarsus, and tarsus. The type specimens are deposited in College of Life Sciences, Hunan Normal University (HNU) and some paratypes will be deposited in California Academy of Science (CAS).

Abbreviations. AER- anterior eye row, ALE- anterior lateral eye, AME- anterior median eye, PER- posterior eye row, PLE- posterior lateral eye.

*Wolonia* Zhu, Kim & Song, 1997

*Wolonia* Zhu, Kim & Song, 1997. *Korean Arachnology*, 13 (2): 1.

Type species: *Wolonia guai* Zhu, Kim & Song, 1997 (types not examined).

The genus is similar to *Leucauge* White, 1841 (Levi, 1980: 23-25), but differs from the latter by: 1) dorsal abdomen with a medial wide brown stripe and carapace with a longitudinal dark band [without in *Leucauge*]; 2) the posterior eye row without canoe tapetum [present in *Leucauge*]; 3) fourth femur without trichobothria [present in *Leucauge*]; 4) cymbium with a basal and a middle projection on retrolateral part [without in *Leucauge*].

Distribution. China (Sichuan, Shaanxi, Hubei and Yunnan).

*Wolonia odontodes* sp. nov. (Figs. 1-8)

Female. Total length 3.90-4.20. Holotype measured: total length 4.00, cephalothorax 1.48 long, 1.18 wide; abdomen 2.62 long, 2.03 wide. Carapace yellowish brown, with a black longitudinal stripe medially. Fovea round in shape, dark brown. Both eye rows recurved. Eyes without canoe tapetum. AME-AME: AME-ALE= 0.12:0.10, PME-PME: PME-PLE= 0.12:0.13. Anterior and posterior lateral eyes continuous. Median ocular area as wide as long (0.36:0.36), wider posteriorly (0.36:0.3). Anterior median eye smallest (0.08), others about equal size (0.10). Clypeus height 0.10. Chelicerae yellow brown, with 1 promarginal tooth and 3 retromarginal teeth. Labium light dark brown, wider than long (0.05:0.15). Gnathocoxae yellow brown. Fourth femur without trichobothria. Measurements of legs: I 7.65 (1.75+2.90+2.10+0.90), II 6.35 (2.05+1.90+1.7+0.70), III 3.55 (1.05+1.1+0.80+0.60), IV 5.05 (1.55+1.50+1.20+0.80). Leg formula: I, II, IV, III. Abdomen oval, widest medially. Dorsum silvery white, with a

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brown middle longitudinal stripe formed by four triangles. Lateral and ventral parts brown, venter with two silvery white stripes centrally.

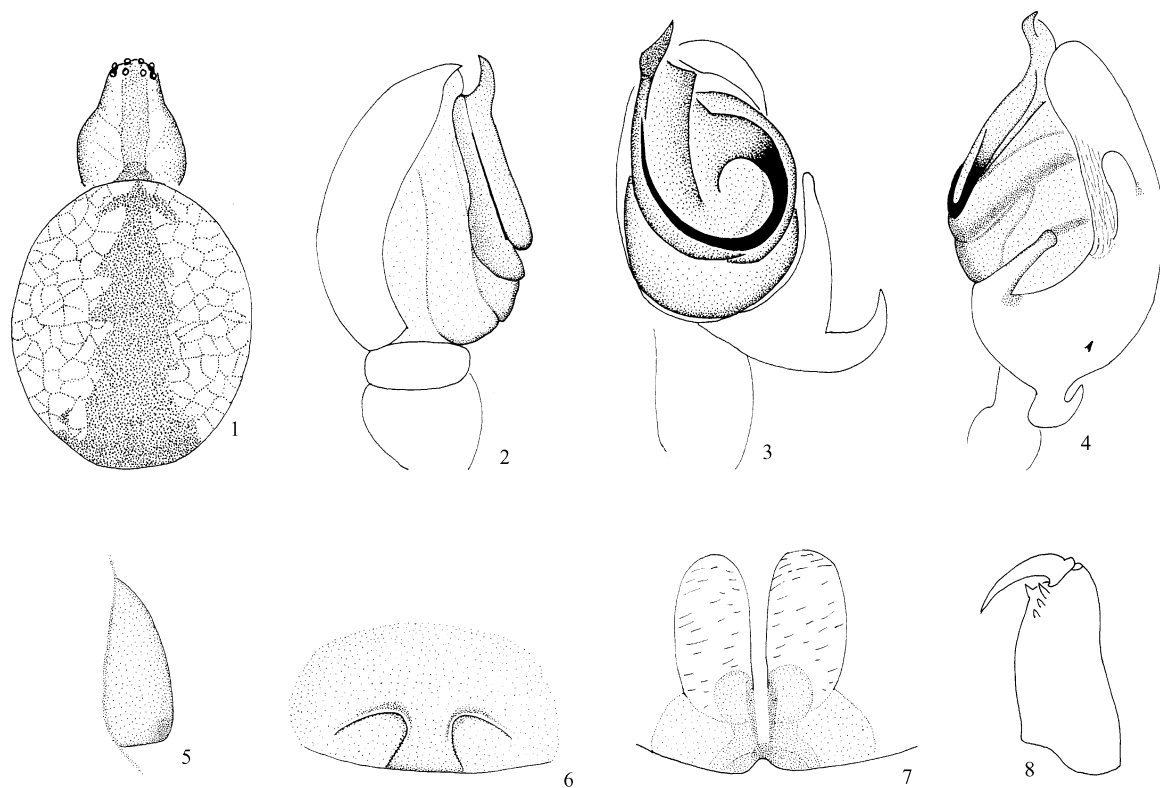
Epigyne slightly convex, sclerotized, atrium large.

Male. Total length 3.80–4.10. A specimen of 4.1 measured: cephalothorax 1.80 long, 1.76 wide; abdomen 2.90 long, 2.40 wide. General appearance and markings as in female. Chelicerae with 1 retromarginal tooth and 3 promarginal ones. Measurements of legs: I 7.50 (2.10 + 2.35 + 1.90 + 1.15), II 7.10 (1.80 + 2.45 + 1.90 + 0.95), III 3.55 (1.35 + 1.35 + 0.50 + 0.35), IV 5.80 (1.90 + 1.90 + 1.25 + 0.75). Leg formula I, II, IV, III. Palp simple with a paracymbium; embolus hides in conductor. In

retrolateral view, cymbium with a short denticle, a basal and a median projections.

Diagnosis. The new species somewhat resembles *W. wangi* and *W. guai*, but can be distinguished from the latter by 1) abdominal dorsum with 4 brown triangular stripes medially; 2) in retrolateral view, the cymbium with a denticle, but absent from *W. wangi* and *W. guai*; 3) femur and metatarsus I of male without short spines found in *W. wangi* and *W. guai*; 4) atrium largest.

Etymology. The specific name comes Latin word “*odontodes*”, referring to the small denticle on the cymbium, adjective in apposition.



Figs. 1–8. *Wdangia odontodes* sp. nov. 1. Female, dorsal view. 2–4. Left palp (2. Prolateral. 3. Ventral. 4. Retrolateral). 5. Epigynum (5. Lateral. 6. Ventral). 7. Vulva. 8. Left chelicera.

Holotype ♀ (HNU), China, Yunnan Province, Lushui County, Pianma Township, Fengxue peak (25.98° N, 98.68° E), 3088 m, 19 May 2005, leg. GUO Ke-Ji. Paratypes: 4 ♀ ♀, 2 ♂ ♂ (HNU), data as in holotype; 2 ♀ ♀, 1 ♂ (CAS), Lushui County, Pianma Township, Chan Yan He 9.3 km ESE Pianma (25.99° N, 98.67° E), 2470 m, 14 May 2005, leg. Charles Griswold; 1 ♀ (HNU), Longyang County, Bawan Township, 2272 m (24.93° N, 98.76° E), 3 June 2005, leg. Charles Griswold; 1 ♀ and 1 ♂ (CAS), Gongshan County, Dulongjiang Township (27.88° N, 98.34° E), 1527 m, 25 Oct. 2004, leg. TANG Guo.

Distribution. China.

*Meta shenae* Zhu, Song & Zhang, 2003 (Figs. 9–11)  
*Meta shenae* Zhu, Song & Zhang, 2003: 67, fig. 29.

Female (the first description). Total length 4.90–5.10. A specimen of 5.00 measured: cephalothorax 1.85 long, 1.65 wide; abdomen 3.25 long, 3.00 wide. Carapace brown, with a pair of eye shaped marks in cephalic area and a v-shaped mark in thoracic area. Fovea round in shape, dark brown. Both eye rows recurved. AME: AME: AME: ALE = 0.12: 0.12, PME: PME: PME: PLE = 0.11: 0.15. Anterior and posterior lateral eyes continuous. Median ocular area as wide as long (0.4: 0.4), wider anteriorly (0.37: 0.33). Posterior median eye biggest (0.15), others about equal

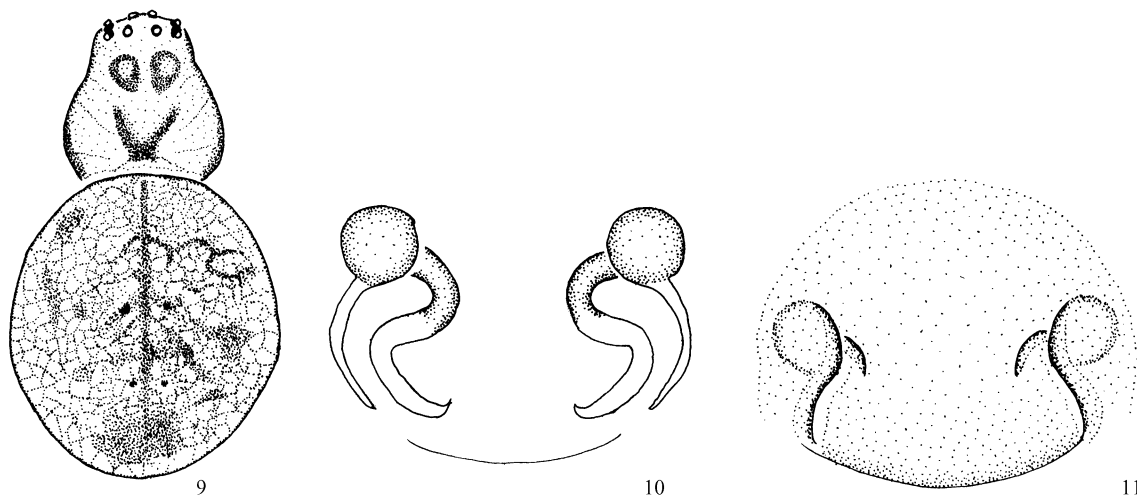
size (0.13). Clypeus height 0.08. Chelicerae black brown, with 3 promarginal and 4 retromarginal teeth. Labium and gnathocaxae black brown. Legs brown, with dark brown annuli. Measurements of legs: I 7.05 (2.00+ 2.50+ 1.65+ 0.90), II 6.30 (1.70+ 2.50+ 1.50+ 0.60), III 3.95 (1.35+ 1.20+ 0.90+ 0.50), IV 5.20 (2.00+ 1.50+ 1.30+ 0.40). Leg formula: I, II, IV, III. Abdomen oval, the whole dorsum with reticulated mark, medianly with a foliate mark, two pairs of muscular depressions black.

Epigyne sclerotized, atrium large, spermathecae spherical, fertilization duct long.

Male. Total length 3.80-4.00. A specimen of 3.90 measured: cephalothorax 1.70 long, 1.20 wide; abdomen 2.80 long, 1.70 wide. Chelicerae with 2 promarginal and 3 retromarginal teeth. Measurements of legs I 9.45 (2.40+ 3.20+ 2.70+ 1.15), II 7.70 (2.25+ 2.50+ 2.00+ 0.95), III 4.05 (1.40+ 1.30+ 0.80+ 0.55), IV 5.65 (1.95+ 1.65+ 1.40+ 0.65). Leg formula: I, II, IV, III. General appearance and markings as in female. Other morphological characteristics see Zhu, Song, & Zhang (2003).

Diagnosis. *Meta shenae* Zhu, Song & Zhang, 2003 somewhat resembles *Meta qianshanensis*. Zhu & Zhu (Zhu, 2003: 66, fig. 28), but can be distinguished from the latter by 1) spermathecae spherical, but *Meta shenae* kidney shaped; 2) fertilization duct longer.

Specimens examined. 3 ♀♀ and 2 ♂♂, China, Yunnan Province, Gaoligong Shan, Nujiang Prefecture, Nujiang State Nature Reserve, No. 12 bridge Camp area, 16.3 air km W of Gongshan, (27.715° N, 98.5° E), 2775 m, 15-19 July 2000, leg. H. M. Yan, D. Kavanaugh, C. Griswold, H. B. Liang, D. Ubick, and D. Z. Don (00-QD-9); 2 ♀♀, China, Yunnan Province, Lushui County, Yaojiaping He at Pianma Road km 44.7 elev. 2516 m, (25.97° N, 98.71° E). Disturbed forest; night collecting in forest and along road cuts 20 May 2005, leg. C. Griswold and D. Kavanaugh; 1 ♀ and 1 ♂, China, Yunnan Province, Lushui County, Yaojiaping He at Pianma Road km 44.7 elev. 2516 m, (25.97° N, 98.710° E). Disturbed forest; night collecting in forest and along road 20 May 2005, leg. C. Griswold and D. Kavanaugh (CAS).



Figs. 9-11. *Meta shenae* Zhu, Song & Zhang, 2003. 9. Female, dorsal view. 10. Epigynum, ventral view. 11. Vulva.

Distribution. China (Tibet, Yunnan).

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# 中国卧龙蛛属一新种及沈氏后蛛雌蛛的单性补充 (蜘蛛目, 肖蛸科)

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**摘 要** 描述了云南高黎贡山肖蛸科卧龙蛛属 1 新种: 小齿卧龙蛛, 新种 *Wolongia odontodes* sp. nov. 和后蛛属沈氏后蛛的雌性补充 *Meta shenae* Zhu, Song & Zhang, 2003。提供了详细的描述和分布数据。模式标本保存在湖南师范大学生命科学学院和美国加州科学院。

卧龙蛛属 *Wolongia* Zhu, Kim & Song, 1997

模式种: 郭氏卧龙蛛 *Wolongia guoi* Zhu, Kim & Song, 1997

属征 本属与银鳞蛛属相似, 但可从以下几点区别: 1) 腹部背面具 1 暗色宽纵带, 且背甲中央具 1 暗色宽纵带, (银鳞蛛属没有); 2) 后眼列后凹不具反光色素层, (银鳞蛛属有); 3) 第 4 腿节无听毛, (银鳞蛛属有); 4) 附舟基部和外侧中部各具 1 突起 (银鳞蛛属没有)。

地理分布: 四川、陕西、湖北、云南。

小齿卧龙蛛, 新种 *Wolongia odontodes* sp. nov. (图 1~ 8)

正模 ♀, 云南泸水县片马镇桥头村, 风雪山山顶, 3 088 m, 2005 05 19, 郭克疾采 (保存于湖南师范大学)。副模: 4♀ ♀, 2 ♂ ♂, 数据同正模 (保存于湖南师范大学); 2♀ ♀, 1 ♂, 泸水县片马镇潺产盐河东南 9.3 km, 2 470 m, 2005 05 14, Charles Griswold 采 (保存于美国加州科学院); 副模: 1♀, 保山市隆阳区坝湾乡, 2 272 m, 2005 06 03, Charles Griswold 采 (保存于湖南师范大学); 副模: 1♀, 1 ♂, 贡山县独龙江乡 1 527 m, 2004 10 25 (保存于美国加州科学院)。

新种雌蛛与王氏卧龙蛛 *W. wangi* 和郭氏卧龙蛛 *W. guoi*

关键词 蜘蛛目, 肖蛸科, 新种, 单性补充.

中图分类号 Q969. 226

相似, 但是有以下几点不同: 1) 新种腹部背面中央的暗色纵带由 4 个三角形组成; 2) 后侧面观, 新种插入器的附舟上有 1 个小齿, 而王氏卧龙蛛和郭氏卧龙蛛没有; 3) 雄蛛腿节和后跗节上没有短刺, 而王氏卧龙蛛和郭氏卧龙蛛上有; 4) 交媾腔在 3 者中最大。

词源: 雄蛛插入器的附舟上有一个小齿, 故名小齿卧龙蛛。

地理分布: 中国云南。

沈氏后蛛 *Meta shenae* Zhu, Song & Zhang, 2003 (图 9~ 11)

观察标本: 3♀ ♀, 2 ♂ ♂, 云南怒江州贡山县怒江自然保护区 12 号营桥区, 贡山以西 16.3 km 处, 2 775 m, 2000 07 14~ 19, D. Kavanaugh, C. Griswold, D. Ubick, 杨效华、梁红兵和董大志采 (保存于湖南师范大学); 2♀ ♀, 云南泸水县姚家坪至片马乡的公路 44.7 km 处, 2 516 m, 2005 年 5 月 20 日, C. Griswold, D. Kavanaugh 采 (保存于湖南师范大学); 1♀, 1 ♂, 云南泸水县姚家坪至片马乡的公路 44.7 km 处, 2516 m, 2005 05 20, C. Griswold, D. Kavanaugh 采 (保存于美国加州科学院)。

沈氏后蛛雌蛛类似于千山后蛛 *Meta qianshanensis* Zhu & Zhu, 但有以下不同: 1) 沈氏后蛛的纳精囊球形, 而千山后蛛的纳精囊肾形; 2) 沈氏后蛛的受精管比千山后蛛的受精管长。

地理分布: 中国西藏、云南。

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